

Engineers Australia

Engineering Heritage Recognition Program

Kennedy Bridge, Bundaberg



Nomination for an Engineering Heritage Marker
Queensland Division of Engineers Australia, 2021

Contents

1 Introduction.....	3
2 Nomination Letter	4
3 Heritage Assessment	5
3.1 Basic Data	5
3.2 History	9
3.3 Heritage Listings	13
3.4 Location	13
4 Assessment of Significance	14
4.1 Historical Significance:.....	14
4.2 Historic Individuals or Association.....	14
4.3 Creative or Technical Achievement.....	18
4.4 Research Potential.....	18
4.5 Social	18
4.6 Rarity	18
4.7 Representativeness	18
4.8 Integrity/Intactness.....	19
4.9 Statement of Significance	19
5 Connection to Burnett River Bridge	19
6 Interpretation Panel	20
7 Letter of Agreement with Owner	21
8 References:.....	22
9 Acknowledgments, Authorship and General Notes	23
10 Change Control Block.....	23
Appendix A: Photographs and Plans	24
Appendix B: Articles	26

1 Introduction

The Kennedy Bridge, constructed in 1899 in Bundaberg, Queensland, is a prime example of bridge engineering and construction from the late 19th century in Queensland. The bridge spans Saltwater Creek, an offshoot of the Burnett river, in central Bundaberg, around 360kms from Brisbane. In the 1880s, the previously quiet country town of Bundaberg began to thrive due to its sugar industry, with substantial masonry buildings being erected in its centre and talk of railway connections to other parts of the state. The Kennedy Bridge, in conjunction with its counterpart the Burnett River Bridge, constructed in Bundaberg the year following, are symbolic of this turning point in the progress of the town, and the strengthening of its connection to the outside world. Designed by Alfred Barton Brady, Government Engineer for Bridges at the time, this bridge has stood for over 120 years, being composed of, primarily, steel from steel works in Glasgow. The industrial developments of the late 19th century allowed for such novelties as importing steel on a large scale, and the classical references and use of Doric entablature on the piers at either end of the Kennedy Bridge emphasise this emergence of Bundaberg as a well-established and sophisticated Australian town. Being located in the centre of Bundaberg, the Kennedy Bridge is integral to the historic character of the town and an excellent example of 1890's bridge engineering by one of Queensland's most renowned civil/bridge engineers.

2 Nomination Letter

Learned Society Advisor
Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Name of work: Kennedy Bridge Bundaberg

This work is nominated for an Engineering Heritage Marker under the Heritage Recognition Program of Engineers Australia.

Location: Bourbong Street, Bundaberg, QLD
Coordinates: -24.86371033, 152.35754186

Owner: Queensland Department of Transport and Main Roads
The owner has been advised of this nomination and a letter of agreement is attached.

Access to site: available via public roads and pedestrian footpath.

Nominating Body: Engineering Heritage Queensland
Nomination compiled by Margot Holbert and Allan Churchward
Date: 29/9/2021

Chair (Divisional heritage group)
Andrew Barnes

Date: 9/10/2021

3 Heritage Assessment

3.1 Basic Data

<i>Name:</i>	Kennedy Bridge
<i>Town:</i>	Bundaberg
<i>State:</i>	Queensland
<i>Local Govt:</i>	Bundaberg Regional Council
<i>Current Use:</i>	Pedestrian and vehicle bridge
<i>Former Use:</i>	Pedestrian and vehicle bridge
<i>Designer:</i>	Alfred Brady
<i>Maker/Builder:</i>	John McCormick and Sons
<i>Year Started:</i>	1898
<i>Year Completed:</i>	1899

Location:

The Kennedy Bridge spans Saltwater Creek, an offshoot of the Burnett river, in central Bundaberg, around 360kms from Brisbane. The Kennedy Bridge was critical in Bundaberg as a route over Saltwater Creek for sugar plantation and refinery wagons and trucks in the late 19th and early 20th centuries.

Opening:

The bridge was formally opened on Saturday the 26th of November 1899 by the Minister for Railways and Works, the Honourable J. Murray, who described the bridge as “one of the finest works of its kind he had seen in Queensland”. The bridge was opened “in the presence of a large assemblage of spectators”, with either end of the bridge having been “profusely decorated with bunting”, the scene being described as “exceedingly effective”. In his speech, the Minister addressed the tragedy of the Loch Fergus, the ship carrying steel components for the bridge from Glasgow, Scotland. The ship had been wrecked off the coast of Belfast, and this incident had led to a significant delay in the bridge’s construction.

Historic Summary:

The Kennedy Bridge of 1899 was built to replace the dilapidated timber bridge built on the same site in 1878. This earlier bridge had consisted of three timber spans, the centre span having been trussed with iron rods. This bridge had been named the Kennedy Bridge, in honour of the Governor of Queensland at that time, Sir Arthur Edward Kennedy. Kennedy was a notable figure of the time not only in Queensland, but globally, as he had previously been governor of Western Australia, Vancouver Island, the West African Settlements and Hong Kong, creating the Hong Kong dollar, a currency still used today. The timber bridge was assessed in November 1896 by Alfred Barton Brady, Engineer for Bridges and Queensland Colonial Architect, and found to be unsafe. Brady’s new design was completed in 1899 and retained the name of Kennedy Bridge.

Physical Description:

The Kennedy Bridge is composed of a single steel span of two longitudinal hog-backed lattice trussed girders. The span is 51.8m and is “carried on massive concrete abutments on pile foundations driven to a depth of 50ft (15.24m) below water level. The roadway is formed of steel trough plates filled with concrete, and covered with tarred metal, with concrete kerbs at each side.” The bridge allows for a single lane of traffic in each direction, with an additional pedestrian walkway on the southern side. The width of the road over the bridge is 7.32m and the additional asphalted footway is 1.83m wide. It is noted that this footpath was changed to a galvanised steel tread plate 2.0m wide in about 1994 with galvanised balustrades. At either end of the bridge are concrete piers, finished with Classical Doric entablature, upon which were fixed large gas lamps to light the approaches to the bridge. The designer was Alfred Barton Brady, Government Architect and Engineer for Bridges, and the construction was supervised by A. J. Goldsmith. The contractors were John McCormick (sometimes referred to in sources as McCormack) and Son, and the total cost of the bridge’s construction was just under £7000. The Kennedy Bridge (1899), Burnett River Bridge (1900) and Victoria Bridge (1897 demolished in 1969) are all of incredibly similar and unique design, being all designed by Brady in the 1890s, with steel girders of similar design and references to the Doric Order in the pilasters, and in the case of the Victoria Bridge, the triumphal arches, at the approaches. This composition of heavily engineered industrial prefabricated steel with Neo-Classical components is very particular to the late 19th century and, in the case of the Kennedy Bridge, is indicative not only of Bundaberg’s emergence into the ‘modern’ industrial era, but also their call to be noticed as a sophisticated and connected town, worthy of the classical architecture found in larger towns in Australia at this time, as well as cities around the world.

Goldsmith describes the bridges:

A. J. Goldsmith describes the Burnett and Kennedy Bridges in the proceedings of the Institute of Civil Engineers, as recorded in the minutes, volume 153, 1903. While he only briefly describes the Kennedy Bridge as “a single span in all respects similar to that of the Burnett Bridge, carried upon concrete abutments, being adopted” from those used in the Burnett Bridge, with a little more information about the cost, he goes into greater depth when describing the Burnett Bridge. This information is pertinent as the Kennedy Bridge was nearly identical in design apart from the number of spans.

“The cylinders forming the who columns of each pier, were sunk by dredging with a single chain “grab” until the material became too hard and compact for further progress by this means, when the excavation was completed by divers supplied with air under pressure by a steam compressor delivering into a receiver on the bank of the river.

“The superimposed weight on the foundations of each pier is approximately 1000 tons, or 460 tons and 540 tons respectively on the upstream and downstream columns. In this estimate the skin-friction on the exterior of the columns is not considered, but a live-load of 100lbs per square foot is allowed, to provide for dense crowds on any part of the bridge, whilst no extra allowance is made for any increased pressure which may be transmitted to the downstream columns by the action of flood stresses.

“The abutments are wholly of concrete gauged 5, 2 and 1, and are carried on grey ironbark piles, spaced 4 feet apart, in rows 3 feet 8 inches apart, centre to centre. The piles are 18 inches in diameter at the head, and are capped with hardwood, 12 inches by 12 inches, the heads being covered in concrete to a depth of 3 feet. The drainage was kept down in the south abutment by a powerful Pulsometer pump drawing from a sump below the level of the bottom of the excavation, which was afterwards filled up solid with concrete.

“The superstructure is formed of steel girders of the ordinary hog-back lattice construction, carrying Lindsay trough-plates on the bottom flanges of the booms. The troughs are brought up level with concrete, and on this the roadway is formed, of tarred metal asphalt with

concrete water-tables on each side. The girders were manufactured in Brisbane at the works of the contractor, and the booms were delivered at Bundaberg in sections of 24 feet to 25 feet in length, the struts and ties being forwarded loose. They were erected on false-works, consisting of a nest of eight hardwood piles, 15 inches in diameter at the head, driven in the centre of each span, strongly braced and supporting Oregon pine trussed beams from false-works clamped to the piers. The tension member of each truss was formed of six wire ropes, 3 inches in circumference, set up with tackle and spliced over cast iron ferrules at the ends of the beams. These trusses were framed on the contractor's wharf and were lifted into position by a steam-derrick on a punt. The girders were erected on blocks to a sufficient height for riveting under the booms, and when completed, the span, including the troughs, was lowered on to the bed-plates by means of two 100-ton hydraulic jacks supported on the false-works secured to the piers. The whole of the material for the river-spans, except the centre length of the top booms, was lifted directly into position by the steam-derrick."

- A. J. Goldsmith, Minutes of Proceedings of the Institution of Civil Engineers, vol 153, 1903

Modifications:







A number of modifications and repairs have been made over the years in order to strengthen the bridge, as well as to make it safer for use, the most notable of these being the installation of three high strength Macalloy tension bars to the bottom girder of each truss, and the installation of 6 continuous universal beams (1959-1960).

A list of repairs as provided in the Department of Transport and Main Roads' Conservation Management Report are listed below:

Date	Repair
1960s	Bottom chords of the main trusses strengthened with sets of three post-tensioned bars, and six load distribution U-beams were attached to the trough parallel to the bridges longitudinal axis.
Mid 1970s	Badly corroded rivets & lower flange sections cut out and replaced with friction grip bolts & splice plates. Protective paint system applied. Sandblasted to bare metal, iron oxide and red lead applied and four coats of COPON barrier paint applied.
1980s	Handrails on pedestrian walkway of the bridge were replaced in the late 1980s. Repair works undertaken involved repair of truss diagonals, alterations to steel troughing on the footpath. Replacement of the traffic rails with Armco guard rails. Bridge and abutments repainted.
1991	New colour scheme chosen for bridge, and painting commenced with metalwork painted green, balustrade red, guard rail cream, and the abutments a combination of cream, blue and grey. Replacement of hand rails, replacement of steel angle on footway & treatment of rust area,
Early 1990s	All footpath members except main cantilevers were replaced.
1994	Repairs undertaken to compression members on footpath side of truss and overhead transverse members.
2008	Rehabilitation management plan was prepared and works commenced on the maintenance of the structure.
2009	Top chord bracing angles replaced.

It is noted that rehabilitation and repainting was completed in November 2014.

A list of modifications to the structure in the form of services can be seen in the table below:

Service	Location	Photograph
Water	Pedestrian walkway	
Vacuum sewer	Downstream side of the underside of the bridge	
Pressurised sewer	Downstream side of the underside of the bridge.	
Enveloper pipe for gas	Upstream side of the underside of the bridge	
Electricity	Above monorail on underside of the bridge.	
Electricity	Across top chord on upstream side of the bridge.	

Current Physical Condition:

The Kennedy Bridge is currently in a suitable state for use. The bridge is maintained to a high standard both structurally and aesthetically by its owner, the Department of Transport and Main Roads, and meets current demands of traffic.

3.2 History

The history of the Kennedy Bridge is considerably impressive when accounting for its context and the situation in Bundaberg at the time. From a history written by A. Meston in July 1923, it can be understood that Bundaberg as a town had only been functioning for a few years before the original timber bridge was erected in 1878. Meston gives an incredibly romantic and beautiful description of the Woongarra scrub and the rich land upon which Bundaberg was founded:

“We go back to a time when the dark green Woongarra scrub covered all the rich red basaltic soil which is spread over 20,000 acres, when the wonga pigeons called to each other in the branches, and the scrub turkey, “wahgoon,” laboriously built her massive nest, on the spot where that romantic “Hummock,” in some remote volcanic past, threw out its mounded seas of fire and lava upon the surrounding scene, and far into the astonished ocean, along whose margin today, from the river mouth, far southward, the beach is fronted by the great masses of black olivine basalt, where “the old Earthquake Demon nursed her young Ruin,” and wrote her terrible name there in the molten lava! And where that fire and lava overflowed and grew cold, and made a beautiful home for the semi-tropical, gorgeous jungle and the wild birds and the wallabies, we see today one of the finest and most prolific cane growing areas in the State. It is an amazing and wonderful transformation scene!”

-Mr A. Meston, The Daily Mail (Brisbane), July 1923

According to Meston, before the Burnett River was discovered, “only one river was known on the east coast, except the Mary, which had been found in 1842 by Andrew Petrie and Stuart Russell”, this being the Boyne River, “discovered and named by Surveyor General Oxley when he visited Port Curtis in search of a site for a new penal settlement to relieve the overcrowding at Port Macquarie”.

In 1846, a surveyor named Burnett “located the mouth of a river 110 miles south of the Boyne, and then some of the squatters followed the river down to the sea, and found themselves a long way south of the Boyne, on a new river, which in 1847, was called the Burnett from the surveyor who reported it and made the first survey, and who died and was buried at Brisbane on July 18, 1854. And all this period, from the unknown beginning to the discovery of the Burnett, Bundaberg is lying dormant in the womb of time, as it were, in the formless protoplasmic stage, until two Scots, named John and Gavin Stuart, came down to the present site of Bundaberg in 1866, looking for good timber to cut staves to make casks for the boiling down then at work on Baffle Creek.”

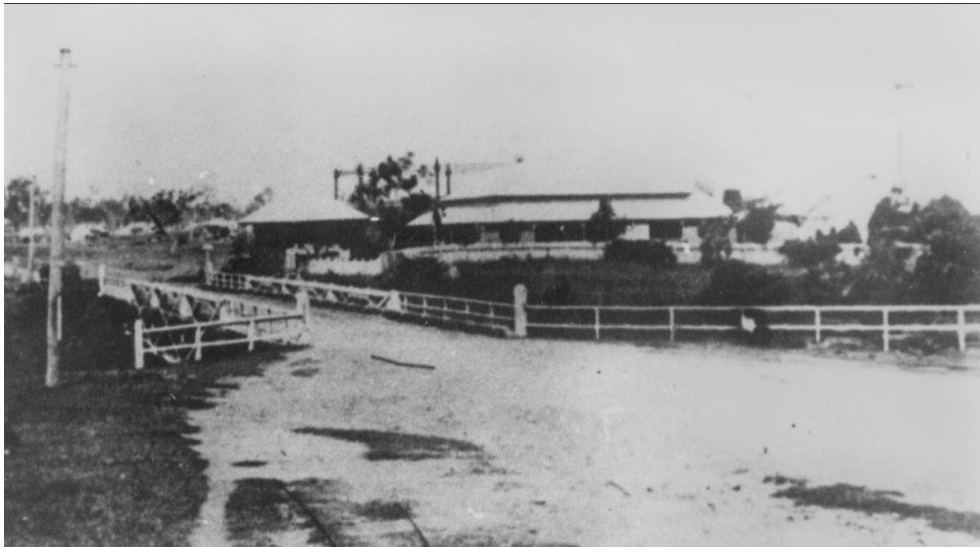
These Scottish settlers had a 320 acre selection of land on the north of the Burnett approved for their development in April 1869, upon which they erected a small sugar mill and named it “Woondooma”. A Mr S. Johnston then purchased 100 acres and erected the Waterview saw and sugar mills. In 1923, at the time Meston wrote this history, Mr Johnston was still alive and well in Bundaberg, “where he is held in profound respect by all classes. He has seen Bundaberg evolve out of the primeval wilderness of scrub and forest, into what it is today, one of the best laid out and cleanest and healthiest towns in Queensland, with its grandest main street, lighted by electricity, and with a full supply of excellent water.”

The first residence was owned by Thomas Watson, who erected a “one room humpy of waste staves roofed with tea tree bark”, and in 1867, the first vessel entered the Burnett river: the schooner Elizabeth.

In 1872, the first bridge to span Saltwater Creek was constructed by Walter Adams and was known as the Adams Bridge. By the time of the opening of its replacement, the Kennedy Bridge, in 1878, the town appears busy and alive, while still being a “working population”:

“Yesterday was a gala day for Bundaberg. Never on any previous occasion have the people as a whole more enthusiastically assembled together than they did to do honour to his Excellency the Governor and the hon. John Douglas. Considering we are, admittedly, a working population, all striving, to do the best for ourselves, it was surprising the amount of energy that was displayed to make the most, at so short a notice, of this occasion.”

-The Brisbane Courier, Sat 30 Mar, 1878



Kennedy Bridge of 1878, State Library of Queensland

The Governor at the time, Arthur Edward Kennedy, opened the bridge, and it was named in honour of him. Over the next few decades, this timber bridge would suffer greatly due to overuse and most likely due to intense and unprecedented flooding. Meston writes that “the flood of 1890 was two feet higher than any known previous flood.” And so, by 1896, this timber bridge was assessed by the Queensland Government’s Engineer for Bridges, Alfred Barton Brady, and found to be in desperate need of replacement. In his official report from November 1896, he states that:

“The bridge was built eighteen years ago, and connects the municipality of Bundaberg with the division of Woongarra. It consists of three timber spans, the centre one measuring 105ft. (32m), and the two end spans 30ft (9.2m). each, the width of roadway between kerbs being 18ft (5.5m). The centre span is trussed with iron rods, and is of very faulty design. The heavy traffic over the bridge, principally to and from the Millaquin Sugar Refinery and the plantations in the Woongarra Scrub, has caused the side trusses to cant over towards downstream, and the top booms of the trusses are as a consequence considerably distorted, and out of line. Generally, the main span is in a very shaky and dangerous condition, and is, in my opinion, unsafe for anything but light traffic. All traffic is rightly restricted to a walking pace when crossing the bridge, but loads heavier than 4 tons, exclusive of the waggon, should not be allowed, and only one such loaded waggon should be permitted on the bridge at a time. Under these conditions the bridge would no doubt last many months.”

-The Brisbane Courier, Mr Brady at Bundaberg, 19 Nov 1896

Brady made recommendations in this 1896 report for a single span steel bridge, to be erected in the place of the timber bridge, with an additional walkway added for pedestrian traffic.

On the 20th June 1898, the Works Department received tenders for the construction of the new Kennedy Bridge, with J. McCormick and Sons at £6,998 and W.M. Thompson and Co. at £8,197, with the length of time required for completion being twelve months. J. McCormick and Sons therefore won the job and by October were receiving tenders for the purchase and removal of the old Kennedy Bridge.

Also in October, the Kennedy Bridge Board put forth a movement to ensure a temporary pedestrian bridge would be constructed while the larger vehicle bridge was in construction. This temporary bridge would cost £31. According to the Kennedy Bridge Board, “the town would lose many times that amount if the bulk of the East Enders are compelled to stay at home through the lack of pedestrian conveniences... for instance [wayfarers] at Monnt Misery could not possibly tramp, without great discomfort and in extreme instances, such a distance round during the summer months.” The Board’s action was applauded by all.

By the 25th of November 1898, the Kennedy Board, via the Bundaberg Mail, was frequently reminding the residents that the bridge would be closed from the 1st of December:

“The Kennedy Bridge Board have taken ample precautions to let it be known throughout town and district that the bridge will-be closed against traffic on 1st proximo, so that if any parties who " never read the Mail"— poor souls— are blocked after that date in attempting to cross, they will only have themselves to thank.”

-Bundaberg Mail, November 1898

On 7th December, the subcontract for the concrete and pile driving was given to Mr T. Macleod.

On the 28 April 1899, the loss of important steel parts for the Kennedy Bridge was reported, even reaching readers of ‘The Week’, a newspaper in Brisbane. The tragic shipwreck of the Loch Fergus, a ship travelling from Glasgow, Scotland, to Brisbane, had occurred off of the coast of Belfast, causing considerable delays in the construction of the bridge.

The Week writes:

“Although the contractors, Messrs. J. M’Cormack and Sons, immediately the news arrived, cabled home to have the gear repeated, and are in receipt of a reply that it was being shipped at once, there must necessarily be a loss of time, which just now is particularly valuable, ere the superstructure can be proceeded with. This, with the sugar season coming on, is exceedingly unfortunate, as, without an expenditure the Woongarra Board cannot possibly afford, there will be no highway at the disposal of the public equal to taking any heavy loads over. It was currently reported about town that the contractors had applied on account of this accident, for an extension of time, and in all probability their application will, under the circumstances, be granted. Similar lines of material were aboard the Loch Fergus for the Burnett River traffic bridge, but it is not anticipated their loss will retard operations on that structure.”

-The Week, April 1899

For the contractors to have to send word to Scotland that they would require a repeat of the parts for the superstructure of the bridge would have been very stressful indeed. The ships used to transport such goods at the time were still sailing ships, though they were known for being relatively fast. The Loch Fergus was one of the Loch Liners, named after the Lochs of South West Scotland. She was “a handsome barque of 845 tons, built at Glasgow by Henderson in 1875. She, like the other Lochs, brought out many of our early settlers between 1876 and 1887.” According to ship records the Loch Fergus

could sail from the UK to New Zealand in around 100 days. To send a request for a repeat of materials would therefore have set the contractors back quite significantly.

In contrast to the opening of the Kennedy Bridge in 1878, the opening of Brady's 1899 bridge paints a different picture of the now "thriving and busy little town of Bundaberg". The author of the Brisbane courier article reporting on the event, writes that "Bundaberg appears to be in a thoroughly prosperous condition at the present time, and signs of progress are by no means wanting." In addition to the opening of this Kennedy Bridge, the Burnett River Bridge, also designed by Brady, was also in construction at the time, having a very similar design to the Kennedy Bridge but a much longer required span.



Kennedy Bridge in 1911, State Library of Queensland

The opening of the Kennedy Bridge is described as follows by a correspondent at the Brisbane Courier:

"The Minister for Railways and Works (Hon. J. Murray), accompanied by a small Parliamentary party, who had travelled up from Brisbane for the occasion, opened the bridge in the presence of a large assemblage of spectators at 11 o'clock. In doing so, he thanked the president of the Kennedy Bridge Board for the opportunity which had been afforded him of being present. The ceremony was, to his mind, a distinct evidence of the progress the district was making. Some disappointment, he understood, had been failed by the contractor not being able to complete the work within contract time, in consequence of some of the material being on board the Loch Fergus, which unfortunately was wrecked. However, he thought the contractor was to be congratulated on the completion of the work within the, extended period granted. The people of Bundaberg were to be congratulated upon the magnificent structure they had obtained, and the officers of the Works Department, who had had the designing and carrying out of the work, were deserving of commendation. (Applause.) The bridge was one of the finest works of its kind he had seen in Queensland. In a very short time his successor, he supposed, would be called upon to open a much more important bridge-the one now being constructed over the Burnett. When that bridge was completed, he thought the district could safely congratulate itself.

He thought the residents of Bundaberg should give some credit to the Government for the manner in which they had attended to the wants of the district. (Hear, hear, and applause.) The Minister then severed the ribbons- the national colours, red, white, and blue- which had been stretched across the entrance to the bridge, at the same time declaring the structure

officially opened. At either end the bridge had been profusely decorated with bunting, and, as may readily be imagined, the scene which presented itself at the opening was an exceedingly effective one."

- The Brisbane Courier, Mon 27 Nov 1899

3.3 Heritage Listings

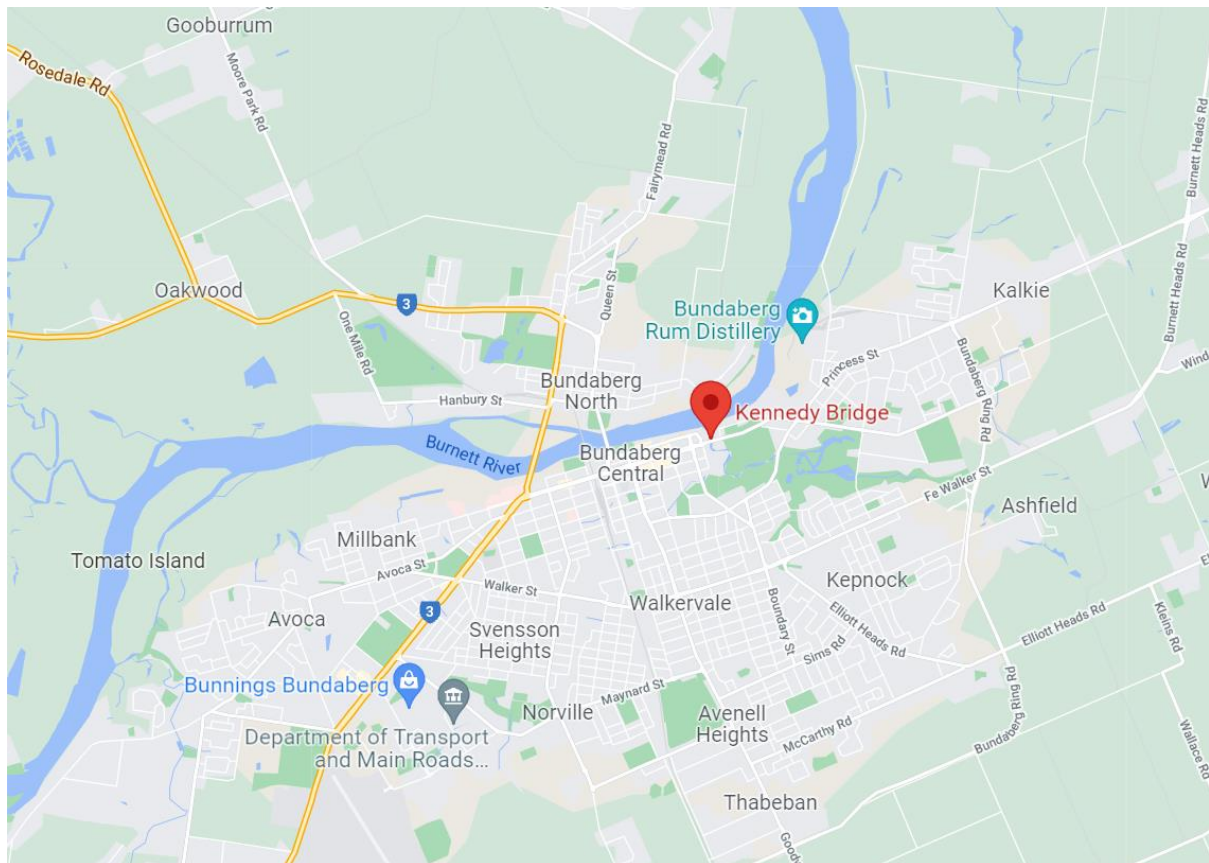
State Heritage Listed

Kennedy Bridge

600367

21 October 1992

3.4 Location



Google Maps 2021

4 Assessment of Significance

4.1 Historical Significance:

The Kennedy Bridge is an excellent example of the work of the Government Engineer for Bridges at the time, Alfred Brady. The Kennedy and Burnett River Bridges are sister bridges in Bundaberg, both designed by Brady (after the construction of the Victoria Bridge in Brisbane, also with the same girder design) and were constructed at a time when this small community first began to thrive as a town. Their notable classical design and imported steel superstructures are Bundaberg's first taste of the fineries of an expanding town. The lasting nature of these bridges can be attributed to Brady's excellent engineering in conjunction with premium Scottish manufacturing in Glasgow. The importance of the Kennedy Bridge as a transport route lies in its location at the centre of the town of Bundaberg, therefore being essential for the transportation goods, especially sugar.

The Kennedy Bridge is composed of a single steel span composed of two longitudinal hog-backed lattice trussed girders. This type of bridge design was quite particularly favoured at this period in Queensland, with Brady using hog-backed lattice trussed girders in the design of the Victoria Bridge (1896) as well as the Burnett River Bridge (1900). Other bridges in Queensland such as the Mary River Bridge (1886), Albert Bridge (Indooroopilly) (1895), and Alexandra Bridge (1899), all designed by Henry Charles Stanley, also use this type of steel superstructure, although the finesse and classical detailing of Brady's designs is absent in Stanley's. The Kennedy Bridge is an excellent illustration of Brady's innovative and unique pairing of excellent engineering design with architectural splendour, ensuring an aesthetic worthy of a sophisticated Australian town of the modern era, with the structural engineering to ensure it would stand for centuries.

4.2 Historic Individuals or Association

Alfred Barton Brady (1856-1932)

Designing Engineer of the Kennedy Bridge



Under Secretary for Public Works, Government Engineer for Bridges and Government Architect, Mr Alfred Barton Brady, was designer of the Kennedy Bridge, as well as the two other Queensland bridges of similar design, the Burnett River Bridge and the Victoria Bridge, and one of the earliest concrete bridges in Australia, the Lamington Bridge. Brady's contribution to Queensland bridges as well as other significant infrastructure was incredibly profound.

The Week (Brisbane), on Friday 13th of January 1922 published the following report on Brady's retirement:

It has been already announced that Mr Alfred Barton Brady, Under Secretary for Public Works, Government architect, and engineer for bridges, is to retire from the public service at the end of this month. He is one of the many public servants, whose services the State is losing because of the inexorable march of time, and of the Government's decision to curtail expenditure by the strict enforcement of the age limit provisions of the Public Service Act. In the case of under secretaries a year's grace is being allowed, and Mr. Brady will be 66 years old on 1st February. He is a wonderfully well-preserved man and is in excellent health. He has rendered valuable service to the State, and it will be difficult to fill his place, for he is a capable administrator and an architect and engineer of high standing, as is testified by so many Government buildings in Brisbane and other public works throughout the State. Mr. Brady's name is written large in the progress of Brisbane and other towns, and the State abounds with monuments to his rare skill and his elegance of taste.

Mr Brady was born on 1st February, 1856, at Manchester, England. He was educated at public schools in that city, and on 15th January. 1872, 50 years ago, at 16 years of age, entered as a pupil the office of Mr. Charles William Green, architect and civil engineer, of Manchester and Liverpool. Mr. Green was also official architect to the Lancashire and Yorkshire Railway Company. During seven years service in his office, Mr. Brady gained considerable experience in large and varied works of architecture and engineering, laying well the foundations of his future career.

From March, 1879 to October, 1884, Mr. Brady was employed in various professional capacities in London and other parts of England, gaining experience in water supply, sewerage and drainage, and other public works. He arrived in Brisbane in December, 1884, and on 22nd January, 1885, at the age of 29, entered the Queensland Government service, receiving an appointment as assistant engineer in the Railway Department, where he was chiefly employed in designing railway and road bridges, station roofs, subways, and other railway works which include many important steel bridges carrying the Queensland railways over rivers and creeks in all parts of the State; also the steel arched roof, 100 feet clear span, over the Central station, Brisbane.

In June. 1889, Mr. Brady was transferred to Department of Public Works as engineer for bridges, and in September, 1891, he was appointed also Government architect. To these appointments was added that of permanent head of the department, he being gazetted Under Secretary for Public Works on 1st February, 1901.

During Mr. Brady's term of office in department many large works have been completed, the more important of which include the Victoria bridge, Brisbane; the Burnett and Kennedy bridges, Bundaberg; the Lamington bridge, Maryborough; the Border bridge, Goondiwindi; and chief amongst public buildings, the Executive Buildings, State Government Insurance Building, Central Technical College Buildings, Brisbane., and many large customs houses, post offices, court houses, hospitals, asylums, prisons, technical colleges and State schools in the principal towns in other parts of the State.

For a paper read by him before the Institution of Civil Engineers, London, on the design and construction of the Victoria bridge, he was awarded the Crampton prize for year 1902. and for his paper on the Lamington bridge, Maryborough—the first reinforced concrete bridge in the southern hemisphere—he was awarded a Telford premium by the same institution.

In the year 1913 Mr. Brady; was sent by the Government on a tour round the world, which embraced Great Britain, Europe, the United States of America, and Canada, and during the

period of eight months taken by the trip gained considerably in professional knowledge, which has been of advantage to the State. A report on the tour was afterwards tabled in both Houses of Parliament.

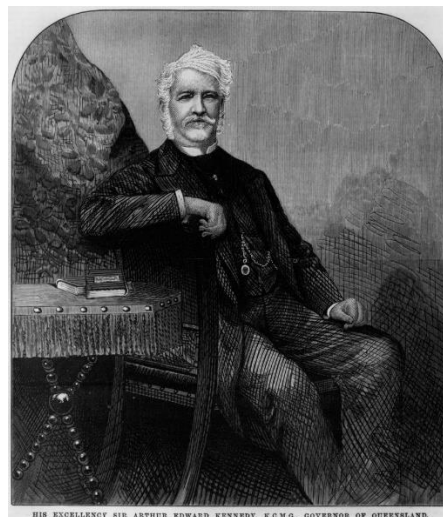
Mr. Brady has acted as professional adviser to the Government on the Brisbane sewerage scheme from its inception, including the definite selection of the site of the outfall works at Luggage Point.

He was appointed official representative of Queensland in the valuation of properties transferred to the Commonwealth, embracing all post offices, customs and "defence land and buildings, and other properties, including fortifications, guns, military and naval stores and equipment, telegraph and telephone lines, &c., and on 4th December, 1908, signed on behalf of this State the final valuation of the transferred properties amounting to £1,521,868.

At the time of Mr. Brady's appointment to the position of Government architect, September, 1891, the staff of the department comprised 33 officers, while the total expenditure for the year on staff and works amounted to £117,984. During the intervening years up to the date of appointment as Under Secretary on 1st February, 1901, the operations of the department steadily extended till in the financial year ended 30th June, 1902, we find the staff consisted of 65 officers, and the total expenditure amounted to £185,677. During the immediate succeeding years, the department, in common with others, felt the severity of the depression occasioned by the drought of that period, but on the return to normal times, the expansion and progress to meet the requirements for public works in the State continued till the financial year 1920-1921, the expenditure for that year amounting to £577,005, while at the present time the staff of the head office, branches, and subdepartments totals 347 officers. Mr. Brady's photograph appeared in Saturday's "Telegraph."

-The Week (Brisbane), 13, Jan 1922

Arthur Edward Kennedy (1809-1883)



Arthur Edward Kennedy served as the Governor of Queensland from 1877 to 1883 and was incredibly popular during his time. Kennedy was invited to open Bundaberg's new bridge over Saltwater Creek in 1878 and it was named in honour of him. A journey up to Bundaberg from Brisbane, at that time, would have taken over a week, and the town, being very early on in its development, would have felt themselves incredibly fortunate to have the Governor visit them to open their new timber bridge. His Obituary in The Leader (Melbourne) describes him as follows:

“He was born at Calha, County Down, Ireland, in 1809, being the third son of Mr. Hugh Kennedy. He received his education at Trinity College, Dublin. In 1827, he entered the army as ensign in the 11th Regiment. He was made lieutenant in 1832, captain of the 68th Light Infantry in 1840, and retired from the army in 1848 to enter the civil service of his Government. In 1846, before his connection with the army ceased, he filled the office of County Inspector under the Board of Works. As Relief Commissioner and Inspector of Poor Laws, an office which was abolished in 1851, he was largely connected with the Irish famine of 1848-9, and drew up some able reports on the subject. Captain Kennedy was married in 1839 to Miss Georgina Macartney, by whom he had one son and two daughters. His first appointment in the colonial service was that of Governor and Commander-in-Chief of Vancouver's Island and its dependencies. He served as Governor of Western Australia from 1854 to 1862. In August 1867 he received the honor of knighthood. In January 1868 he was made Governor and Commander in Chief of the West African possessions, and subsequently he served as a judge in Sierra Leone in the courts of mixed commission with foreign powers, for the suppression of the slave trade.

From 1872 to 1877 he was Governor of Hong Kong, and in the last mentioned year he was transferred to the governorship of Queensland. Sir Arthur Kennedy was exceedingly popular with the Chinese at Hong Kong. When he surrendered the Governorship of that colony the native residents presented him with a gorgeously framed state umbrella, an emblem of rule which the Chinese had never before, of their own free will, bestowed upon an English official. The Chinese merchants in Hong Kong also instructed their agents at Cook town to prepare a grand welcome for Sir Arthur on his arrival there. The steamer which conveyed Sir Arthur to Queensland was unfortunately quarantined for small-pox at Cooktown, and the demonstration was greatly interfered with by this circumstance. A large body of Chinese nevertheless went out to the steamer in a cutter, handed up on address on the point of a bamboo, and, circling round the boat, exploded an enormous number of crackers. The balance of unused crackers prepared was sold for £100, and the money was presented to the Cooktown Hospital. Sir Arthur Kennedy was not very favorably received at first by the general body of the Queensland colonists. The Chinese question, from the European point of view, was a burning one with them, and the new Governor was believed to hold strongly pro-Chinese opinions. His retinue of Chinese servants were a source of irritation, and he defiantly drove about with some of them, including a Chinese groom. Some remarks he made in his farewell speech at Hong Kong, about his preference for a Crown colony, also caused him to be received coldly in some quarters; but when he was found to be an outspoken man, who said exactly what he meant, and that he allowed none of his individual opinions to interfere with the fair discharge of his official duties, he became very popular.

When he left the colony the crowd which assembled at the wharf to see him off outnumbered any previous assemblage on a like occasion. During the period of his official life in Queensland, he never came into conflict with any branch of the legislature. On all public occasions when he could be of use he was willing to be present, and his speeches were generally marked by tact and sound sense. On social occasions Miss Kennedy presided at Government House. In the year 1880 he visited England, having obtained leave of absence, and in the following year he returned to Brisbane and completed the term of his governorship. On his way to England last month he passed through Melbourne, and stayed a short time with the Marquis of Normanby, who was an old friend of his. He complained of being unwell, and he also declined a farewell dinner at Brisbane, on the score of ill health, but no one thought that his end was so near. Some time ago, when in Brisbane, he had a slight stroke of paralysis, and it is not improbable that he died under a second attack. He left Melbourne by the mail steamer for Europe on the 7th May last, and we learn by telegram that he died at Aden on the 3rd June. The news will nowhere be received with more regret than in Queensland, where the late Governor's frankness and sturdy English qualities were well appreciated.”

-The Leader (Melbourne), 16th June 1883

4.3 Creative or Technical Achievement

The Kennedy Bridge is an excellent example of late 19th century bridge construction. In this particular period in time, a dialogue between old world sophistication and new world technology was taking place. Brady's designs epitomise this period of design, incorporating classical elements, as well as highly industrial engineered components. For the town of Bundaberg, the incorporation of such design in its civic structures was key to it being recognised as an important and valuable town in Queensland.

Brady's unique designs for his steel bridges (Kennedy, Burnett River and Victoria), were charming, elegant, and yet modern. The use of hog-backed lattice trussed girders with this particular pattern was lightweight, structurally effective, and visually delightful.

4.4 Research Potential

The Kennedy Bridge is working bridge and a key part of the transport network of Bundaberg.

The owner has invested in an ongoing maintenance program. Past investigations have examined the performance of the bridge and identified shortcomings in its structural integrity. Future potential investigations will add to the knowledge of the expected life and needs of this structure.

4.5 Social

The prestige of the Kennedy Bridge's design represents the desire of those in Bundaberg at the time to emphasise the growth of this newly thriving town. The bridge connected the town of Bundaberg to Woongarra, allowing more outer residents to access the centre of town, and provided a key route for the sugar plantations and refineries as well as other industries in the area.

4.6 Rarity

The rarity in the design of the Kennedy Bridge not only comes in the form of Brady's unique design, which he used only for his three steel bridges, but for the Kennedy Bridge in particular, the use of such special imported materials and modern design for the times was incredibly rare for such a small bridge. The Kennedy Bridge being only a single span bridge could have been replaced in the 1890s with another timber bridge to service the town and the surrounding industries. However, thanks to Alfred Brady's involvement in the project, and its construction occurring alongside his other two bridges, this little bridge in Bundaberg received every attention to engineering and architectural detail and has lasted over 120 years as a result.

This nomination has focused on the Kennedy Bridge as the forerunner to the Burnett River Bridge which was completed a year later. In a way much of the recognition given to the Kennedy Bridge could well apply to the Burnett River Bridge. It is proposed that the Interpretation Panel to be erected on site will reference the Burnett River Bridge and the connection with the designer Brady.

4.7 Representativeness

The Kennedy Bridge is a fine example of this style of hog backed lattice truss bridge used in the late 19th century and designed by Alfred Brady. It is the oldest surviving road bridge of this style in Queensland.

The bridge is intrinsically linked to the emergence of Bundaberg from a rural country town into the ‘modern’ industrial era.

4.8 Integrity/Intactness

The Kennedy Bridge has been maintained throughout the 20th and early 21st centuries by the Department of Transport and Main Roads, the owners of the structure, who have also developed a Conservation Management Plan to ensure the bridge’s ongoing survival. While there are elements of the bridge which may be in need of some cosmetic repair, such as the erosion of the pilasters’ classical mouldings at the bridge’s approaches, the bridge is overall in a very fine condition for its age and has undergone significant engineering restoration in order to ensure its structural integrity for many years to come.

4.9 Statement of Significance

The Kennedy Bridge is a fine illustration of Bundaberg’s emergence into the ‘modern’ industrial era, as well as its call to be noticed as a sophisticated and connected town through the use of the state-of-the-art structural engineering practices of the time. The bridge remains today as an integral part of Bundaberg, contributing to its historic character.

The bridge stands as a fine example of a steel hog-back lattice trussed girder bridge, a popular bridge type in Queensland in the late 19th Century and serves as an example of the type of infrastructure developed to support the transport required for regional industrial development in Queensland at this critical time. The story of the bridge’s construction, and the difficulties and challenges faced in importing steel from Glasgow, contribute to understanding the significance of constructing a bridge like this at this time in Australia. The finesse of the classical pilasters and the use of concrete as a material is quite singular and illustrative of the architectural and engineering advancements of the time, incorporating both traditional and classical design elements, as well as technologically advanced materials.

Alfred Brady was a significant figure in the industrial history of Queensland, and the bridge stands as an excellent example of his work. In addition, since the Victoria Bridge was demolished in 1969, the Kennedy Bridge is now the earliest example of Brady’s steel bridge design.

5 Connection to Burnett River Bridge

The Kennedy Bridge and the Burnett River Bridge were both designed by Alfred Brady and are similar in design. Both bridges were constructed by the same contractor John McCormick and Sons. Incidentally John McCormick was also the contractor of the Victoria Bridge (1896 demolished 1967) in Brisbane and the Albert Rail Bridge (1895) in Brisbane. Both the Bundaberg bridges are on the Queensland Heritage Register. The Kennedy Bridge was completed first (1899) and is the oldest surviving road bridge of this style in Queensland. Hence this nomination has focussed on the Kennedy Bridge both for its technical aspects as well as the impact of the engineering fraternity of the day on the development of Bundaberg.

6 Interpretation Panel

The Interpretation panel is yet to be designed.

The theme will focus on the type of bridge, its contribution to Bundaberg in the 1890s and beyond and the designer Alfred Brady.

It will be designed in cooperation with the owner TMR and will also reference its sister bridge across the Burnett River.

The final design will be submitted to the Chair of the EHRP for review before manufacture.

It is proposed a ceremony be held on site in 2022.

7 Letter of Agreement with Owner



Office of the
Director-General

Department of
Transport and Main Roads

Our ref: DG41923

07 SEP 2021

Ms Stacey Rawlings
General Manager (Queensland)
Engineers Australia Queensland
QLD@engineersaustralia.org.au

Dear Ms Rawlings

Thank you for your letter of 23 August 2021 co-signed by Mr Andrew Barnes, Chair, Engineering Heritage Queensland, offering the Department of Transport and Main Roads (TMR) an opportunity to accept Engineers Australia's (EA) Engineering Heritage Award nomination for the Kennedy Bridge in Bundaberg.

Thank you for considering the Kennedy Bridge for this recognition. I am pleased to accept the nomination on behalf of TMR.

Should you require a local representative to discuss any aspect of the next steps involved, please contact Ms Tanya Harding, Senior Cultural Heritage Officer (Wide Bay Burnett), TMR, by email at bundaberg.office@tmr.qld.gov.au or telephone on 4154 0200.

As the Kennedy Bridge is listed on the Queensland Heritage Register, TMR will need to liaise with the Department of Environment and Science to determine an appropriate location for installing the interpretation panel. TMR also appreciates the opportunity to be involved with the interpretation panel design.

I look forward to working together to help celebrate the heritage significance of the Kennedy Bridge as part of your Australian Historic Engineering Plaquing Program.

Once again, thank you for recognising one of Queensland's heritage structures.

Yours sincerely

Neil Scales
Director-General
Department of Transport and Main Roads

8 References:

Department of Transport and Main Roads, Kennedy Bridge: Conservation Management Plan, June 2011

TMR presentation on the history of the Kennedy Bridge and the Burnett River Bridge.

<https://www.artsbundaberg.com.au/galleries/exhibition-videos/6>

The Governor's Visit to Bundaberg, Page 5, The Brisbane Courier, Sat 30 Mar 1878, accessible at:

<https://trove.nla.gov.au/newspaper/article/1371015>

Mr Brady at Bundaberg, Page 6, The Brisbane Courier, Thu 19 Nov 1896, accessible at:

<https://trove.nla.gov.au/newspaper/article/3639629?searchTerm=kennedy%20bridge%20bundaberg>

Opening Victoria Bridge, Page 6, The Telegraph (Brisbane), Wednesday 23 June 1897, accessible at:

<https://trove.nla.gov.au/newspaper/article/172404048/19956037>

Tenders for Kennedy Bridge, Page 2, The Bundaberg Mail and Burnett Advertiser, Mon 20 Jun 1898, accessible at:

<https://trove.nla.gov.au/newspaper/article/215627337?searchTerm=Kennedy%20Bridge%20construction>

Wanted a Footbridge, Page 2, The Bundaberg Mail and Burnett Advertiser, Mon 17 Oct 1898, accessible at:

<https://trove.nla.gov.au/newspaper/article/216899663?searchTerm=%22Kennedy%20Bridge%22>

Tenders, Page 3, The Bundaberg Mail and Burnett Advertiser, Mon 17 Oct 1898, accessible at:

<https://trove.nla.gov.au/newspaper/article/216899645?searchTerm=%22Kennedy%20Bridge%22>

Kennedy Bridge Board, The Bundaberg Mail and Burnett Advertiser, Friday 25 Nov 1898, accessible at: <https://trove.nla.gov.au/newspaper/article/216900268?searchTerm=%22Kennedy%20Bridge%22>

Local and General News (subcontract for pile driving), Page 2, The Bundaberg Mail and Burnett Advertiser, Wed 7 Dec 1898, accessible at:

<https://trove.nla.gov.au/newspaper/article/216904773?searchTerm=%22Kennedy%20Bridge%22>

A Question of Patent Rights, Page 4, Maryborough Chronicle, Wide Bay and Burnett Advertiser, Fri 16 Dec 1898, accessible at:

<https://trove.nla.gov.au/newspaper/article/148032162?searchTerm=%22Kennedy%20Bridge%22>

Loss of Bridge Material, Page 12, The Week (Brisbane), Fri 28 Apr 1899, accessible at:

<https://trove.nla.gov.au/newspaper/article/182869789?searchTerm=Loch%20Fergus%20Kennedy%20Bridge>

New Kennedy Bridge, Page 24, The Week (Brisbane), Fri 24 Nov 1899, accessible at:

<https://trove.nla.gov.au/newspaper/article/182878337?searchTerm=kennedy%20bridge%20glasgow>

A Bundaberg Function: Opening of the Kennedy Bridge, Page 6, The Brisbane Courier, Mon 27 Nov 1899, accessible at:

<https://trove.nla.gov.au/newspaper/article/3706178?searchTerm=kennedy%20bridge%20Brady>

Mr A.B. Brady: Retirement This Month, Page 14, The Week (Brisbane), Fri 13 Jan 1922, accessible at:

<https://trove.nla.gov.au/newspaper/article/192971783?searchTerm=Alfred%20brady%20retirement%20bridge%20engineer>

Early Bundaberg, Page 8, The Daily Mail (Brisbane), Monday 23 July 1923, accessible at:
<https://trove.nla.gov.au/newspaper/article/218207226>

9 Acknowledgments, Authorship and General Notes

EHQ wishes to acknowledge the cooperation of the staff of the Bundaberg office of TMR.

EHQ also acknowledges the work done by Margot Holbert in undertaking the research and preparation of the proposal and the nomination for the Kennedy Bridge.

Authors Margot Holbert and Allan Churchward

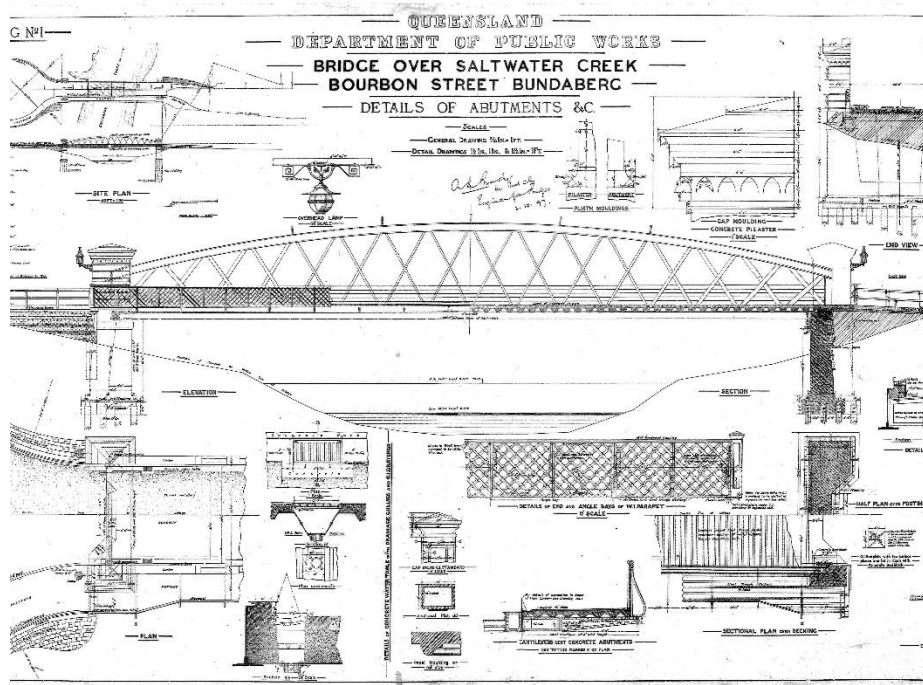
10 Change Control Block

Original Version 29/9/2021

Appendix A: Photographs and Plans



*Construction of the Kennedy Bridge
(Steve Connell Collection, The University of Queensland Fryer Library)*



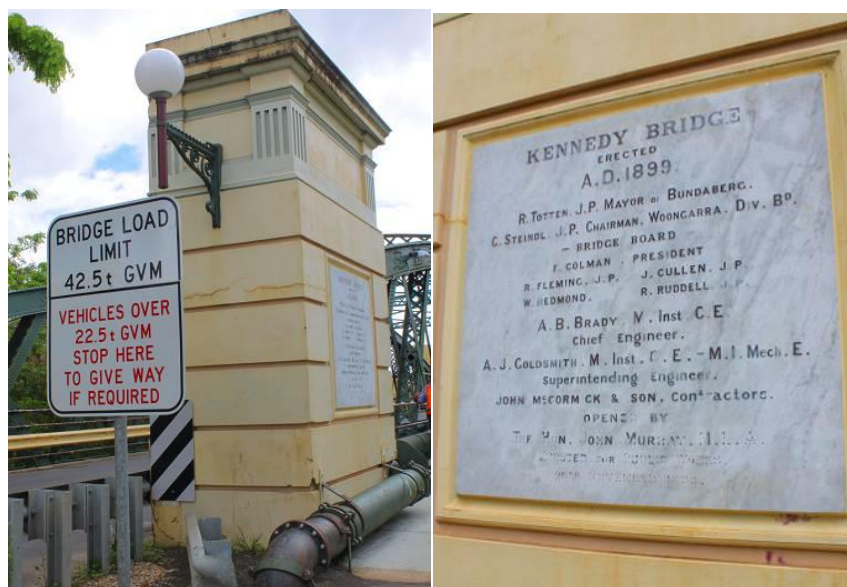
*Typical Plan
(TMR library)*



Kennedy Bridge c1911 (State Library of Queensland Neg. No. 138233)



Kennedy Bridge Looking East (ERM 2010)



L shaped' Pylons (left) and marble plaque (right) (ERM 2010)

Appendix B: Articles

THE KENNEDY BRIDGE

MR. BRADY AT BUNDABERG.

Mr. A. B. Brady, Engineer for Bridges, has forwarded to the Minister his report on the Kennedy Bridge over Saltwater Creek in Bourbon-street, Bundaberg, inspected by him at the request of the Kennedy Bridge Board on the 6th Instant. In his report Mr. Brady says:

“The bridge was built eighteen years ago, and connects the municipality of Bundaberg with the division of Woongarra. It consists of three timber spans, the centre one measuring 105ft., and the two end spans 30ft. each, the width of roadway between kerbs being 18ft. The centre span is trussed with iron rods, and is of very faulty design. The heavy traffic over the bridge, principally to and from the Millaquin Sugar Refinery and the plantations in the Woongarra Scrub, has caused the side trusses to cant over towards downstream, and the top booms of the trusses are as a consequence considerably distorted, and out of line. Generally, the main span is in a very shaky and dangerous condition, and is, in my opinion, unsafe for anything but light traffic. All traffic is rightly restricted to a walking pace when crossing the bridge, but loads heavier than 4 tons, exclusive of the waggon, should not be allowed, and only one such loaded waggon should be permitted on the bridge at a time. Under these conditions the bridge would no doubt last many months.

“A new bridge of a permanent character is, in my opinion, necessary to provide for the heavy traffic on this road. This bridge should be of the first class, consuming of steel girders and decking, the roadway being formed of tarred metal laid on concrete, with an asphalt footway on one side only. A roadway 24ft. wide and a footway 6ft. would be ample for many years.

“It is recommended that the level of any new bridge built should be 2ft. or 3ft. above the present level, and the upstream side of the present structure should be the centre line of the roadway of the new bridge. The question of design of bridge has been considered, as to whether a single-span structure or a bridge of three steel spans on two cast-iron cylinder piers, with concrete abutments, would be most suitable, but after careful consideration and calculations as to cost, I have come to the conclusion that the bridge would be best and most economically constructed in one span of 160ft. in the clear between the abutments, thus avoiding the uncertainty as to depth and cost of two piers in the creek.

“The superstructure of the proposed new bridge, including the decking, should be of steel, and the abutments of Portland cement concrete. The total length of the decking I would be 175ft. The estimated cost of such a bridge, including making up and metalling the approaches, would be approximately £6800. As an alternative, a substantial bridge, 30ft. in width, consisting of three 35ft. spans and two 30ft. spans, on iron screw pile piers, the superstructure and abutments being of timber, can be built for about £3200, including the necessary alterations to the approaches.”

<https://trove.nla.gov.au/newspaper/article/3639629?searchTerm=kennedy%20bridge%20bundaberg>

Page 6, The Brisbane Courier, Thu 19 Nov 1896

NEW KENNEDY BRIDGE

We (Bundaberg Star) visited the site of the new Kennedy bridge over Saltwater Creek, and found this massive steel structure completed even to the painting, and the lamp brackets for lighting the roadway over the structure. In striking contrast to the old bridge, which was almost entirely of wood, this one, representative of the age in which we live, is of steel, the roadway itself consisting of hollow troughs of steel, filled with tarred metal, and forming a fine macadamised road over the waterway. A large tablet; of marble was being prepared by Mr Henry George, sculptor, to be placed on the right hand buttress, with the names of the present Mayor of Bundaberg, and the president of the Woongarra. Board and the president of the Kennedy Bridge Board graven thereon, the year of the structure's erection, and the name of the present Minister for Works, who is expected to be in evidence at the opening of this long-looked-for communication between the town and its eastern extension. This event is expected to take place very shortly. All that remains to be done now are the approaches on either side and the facing of the earthwork with stone, the making of waterways for storm water, &c., and a large staff of men are engaged completing this work under the supervision of the contractor, Mr. J. M'Cormick, and the Government engineer, Mr. Goldsmith. We understand that no formal test of the structure is considered needed, as every length of steel has previously passed an individual test at the Glasgow works before shipment, and the work is so far above any strain likely to be carried that the test is needless.

<https://trove.nla.gov.au/newspaper/article/182878337?searchTerm=kennedy%20bridge%20glasgow>

Page 24 , The Week (Brisbane), Fri 24 Nov 1899

A BUNDABERG FUNCTION.

OPENING OF THE KENNEDY BRIDGE.

A PARLIAMENTARY PARTY.

AN INTERESTING TRIP.

(By Our Special Reporter.)

The thriving and busy little town of Bundaberg was the scene of considerable jubilation on Saturday, the occasion being the official opening of the new Kennedy Bridge over Saltwater Creek. Bundaberg appears to be in a thoroughly prosperous condition at the present time, and signs of progress are by no means wanting. The town, it is apparent, has not been overlooked by the Government, so far as bridges are concerned for, in addition to the one the opening of which caused the town to don holiday attire on Saturday last, a new structure is being built over the Burnett River not more than a-quarter of a mile below the present railway bridge. This bridge, which is to cost something like £60,000, will be exactly half-a-mile in length when completed, and, judging from the portion already finished, will be one which, to use a common expression, should stand "for all time."

The Minister for Railways and Works (Hon. J. Murray), accompanied by a small Parliamentary party, who had travelled up from Brisbane for the occasion, opened the bridge in the presence of a large assemblage of spectators at 11 o'clock. In doing so, he thanked the president of the Kennedy Bridge Board for the opportunity which had been afforded him of being present. The ceremony was, to his mind, a distinct evidence of the progress the district was making. Some disappointment, he understood, had been failed by the contractor not being able to complete the work within contract time, in consequence of some of the material being on board the Loch Fergus, which unfortunately was wrecked. However, he thought the contractor was to be congratulated on the completion of the work within the, extended period granted. The people of Bundaberg were to be congratulated upon the magnificent structure they had obtained, and the officers of the Works

Department, who had had the designing and carrying out of the work, were deserving of commendation. (Applause.) The bridge was one of the finest works of its kind he had seen in Queensland. In a very short time his successor, he supposed, would be called upon to open a much more important bridge-the one now being constructed over the Burnett. When that bridge was completed, he thought the district could safely congratulate itself.

He thought the residents of Bundaberg should give some credit to the Government for the manner in which they had attended to the wants of the district. (Hear, hear, and applause.)

The Minister then severed the ribbons- the national colours, red, white, and blue- which had been stretched across the entrance to the bridge, at the same time declaring the structure officially opened. At either end the bridge had been profusely decorated with bunting, and, as may readily be imagined, the scene which presented itself at the opening was an exceedingly effective one.

DESCRIPTION OF THE BRIDGE:

From the engineer in charge the following particulars descriptive of the bridge were obtained:

Kennedy Bridge consists of a single steel span of 170ft., carried on massive concrete abutments on pile foundation driven to a depth of 50ft. below the water level. The roadway is formed of steel trough plates filled with concrete, and covered with tarred metal, with concrete kerbs and water-tables at each side. The roadway on the bridge is 24ft. wide. An asphalted footway 6ft. wide, carried on steel cantilevers, is provided on the upstream side of the bridge for pedestrians. Concrete terminal piers finished in classic style give a very handsome appearance to the bridge. These piers carry large gas lamps, each fitted with three incandescent burners, brilliantly lighting the approaches to the bridge. The designs were prepared by Mr. A. B. Brady, M. Inst. O.E., the Government Engineer for Bridges, and the construction was supervised by Mr. A. J. Goldsmith, M. Inst. CE. The contractors were John M'Cormack and Son, and the total cost, including approaches, was slightly under £7000. The bridge has been built to replace the old Kennedy Bridge, a wooden structure, and joins Bourbon-street with the thoroughfare leading past the gas works, on the opposite side of the creek.

<https://trove.nla.gov.au/newspaper/article/3706178?searchTerm=kennedy%20bridge%20Brady>

Page 6, The Brisbane Courier, Mon 27 Nov 1899

THE GOVERNOR'S VISIT TO BUNDABERG.

(FROM OUR OWN CORRESPONDENT) March 27

Yesterday was a gala day for Bundaberg. Never on any previous occasion have the people as a whole more enthusiastically assembled together than they did to do honour to his Excellency the Governor and the hon. John Douglas. Considering we are, admittedly, a working population, all striving, to do the best for ourselves, it was surprising the amount of energy that was displayed to make the most, at so short a notice, of this occasion. The town was prettily decorated with all the available bunting to be obtained; the triumphal arch at the western approach to the wharf, and the one on the new bridge, were admirable specimens of our rustic idea of art in this line; and the products of the place were shown in an attractive manner. The steamer Kate reached the wharf precisely at 10 a.m., and immediately the first gun of a salute of seventeen was fired by an enterprising blacksmith at North Bundaberg, the local Volunteer company, under the command of ex-Major Geary, formed a guard of honour, and the Juvenile Band struck up the National Anthem. The Reception Committee were in attendance to receive the Governor, and the president (Mr. J. C. Walker) and secretary (Mr. A. M. Goodwin) were presented his Excellency by the hon. John Douglas, and the former read an excellent address, beautifully embossed and illuminated by Mr. WY H. Franklin. The Governor replied in a most hearty and practical manner. He said there was no need to apologise for any shortcomings in their mode of receiving him; his object

in travelling through the country was to see people as they are, and he always preferred to meet people in their working clothes than in their holiday finery. He had heard sufficient about their district to convince him that a happy and prosperous future awaited them, and he was of opinion that Bundaberg would ere long take its place among the important towns of the colony. The Protestant Alliance also presented his Excellency with a handsome and well-worded address. The Governor expressed his desire to: walk to the top of the approach, where the school children (400) were assembled. Arriving here, the youngsters sang two verses of the Anthem, and were highly complimented on their appearance, his Excellency remarking that to whomsoever they belonged they should feel proud of them. Mr. George Skyring's buggy being in waiting, the Governor and Premier got in, and followed the procession, headed by the Juvenile Band, to the bridge. Immediately after the band came the Protestant Alliance Society, Oddfellows, and school children. Following his Excellency were the suite, president and secretary of Progress Committee (driven by Mr. A. Walker), and a large number of vehicles, horsemen, and pedestrians. Arrived at the bridge the processionists parted right and left, forming an avenue for the Governor to drive down. The bridge was formally opened and named "Kennedy Bridge." After this the Governor and parties in vehicles went a short distance into the Wongarra Scrub. The party had merely entered the fringe as it were of that vast beehive of agriculturists, when the Governor said they had gone far enough to convince him that this was the finest and most extensive area of rich scrub land in the colony, and with such treasure at their disposal prosperity must ensue. The drive was pleasant, although in some places the road was too rough to be termed an easy drive. Mr. Douglas was rather astonished to hear that that was the best road we had out of Bundaberg.

Returning to town, the party drove through the principal thoroughfares, and at 12.30 landed the Governor at the Land Office, where refreshments were partaken of. At 1 p.m. a levee was held, at which most of the townspeople attended. At 2.30 luncheon was announced, and the party filed in. Without exception this was the finest spread ever placed before a Bundaberg assemblage; and the Governor, in replying to the toast of his health, said he had seen far more extensive luncheons, but for prettiness, excellence, and general get-up he had not seen the Bundaberg spread equalled in the colony. Well, that's a great feather in our cap- a whole plume, in fact - for no one but those residing here know what difficulties we have to encounter in obtaining even common necessities - luxuries are to be had only by the most careful travel and research. Everything passed off splendidly. Mr. Douglas was very happy in his speech, promising nothing, but willing to do everything for the district that could conscientiously be done without injuring the rest of the colony. The railway *should* be constructed. He would mention no definite period for starting the Bundaberg line, but he would say that so soon as the exigencies of the case permitted the line should be started. The toasts had to be curtailed, in consequence of the viceregal party desiring to embark at a quarter to 5 o'clock.

Exactly to the minute his Excellency boarded the steamer Kate, amid the most tumultuous salvos of applause from the congregated mass of humanity - there could not have been less than 1500 present. Standing on the paddle-box the Governor highly complimented the Volunteers on their efficiency, appearance, and soldier-like bearing, and wished them every success. The National Anthem was sung by a couple of hundred of lusty voices as a parting salute to Sir Arthur Kennedy, who, during his stay here, made everyone feel proud of possessing so genial and practical a gentleman as her Majesty's representative.

Altogether, too, I think the people made a favourable impression on the viceregal party and the Premier, and in all probability we shall, after this, be something more in their eyes than a few scattered inhabitants of a miserable village near the mouth of the Burnett, which, alas! we have been too long considered by people in authority.

Page 5, The Brisbane Courier, Sat 30 Mar 1878

EARLY BUNDABERG

ORIGIN OF THE NAME

THE FIRST SETTLERS

By Mr A. Meston

We shall look far, back into other years, back do the days when Stuart Russell and Glover sold out of Ellangowan station, on the Darling Downs, crossed the Range on to the head waters of a river running to the eastward and took up Burrandowan station, to be followed at various times by Captain; Levinge, Furber, Jolliffe, M'Taggart, Hawkins, Lawless, Corfield, Jones, Perrier, Herbert, Dr Ramsay and Forster, the latter being the Forster who, in after years became Premier of New South Wales, and gave his name to the famous lungfish of the Burnett and Mary Rivers, the *Ceratodus Forsteri*.

At the time Forster held Gin Gin station, his partner, Blaxland, was killed by the blacks.

SOME MISCONCEPTIONS.

At, that time only one river was known on the east coast, except the Mary, which had been found in 1842 by Andrew Petrie and Stuart Russell, when they went in that year to look for "Duramboi," piloted by Bracefell, another escaped convict, whom the blacks called "Wandye," one of the names of the dingo. They called the other man James Davis, "Duramboi," their only word for little, as he was a small man, only about 5ft 6in.

The only other river known north of the Mary at that time was the Boyne, discovered and named by Surveyor General Oxley when he visited Port Curtis in search of a site for a new penal settlement to relieve the overcrowding at Port Macquarie. The Boyne runs into Gladstone harbour. As the Boyne was reported coming in from the south and south-west, it was supposed for a long time to be the river on which Burrandowan and all the other new stations had been leased.

TRACING THE BURNETT.

All the early squatters on the head of the Burnett thought they knew no better until Surveyor Burnett, in 1846, located the mouth of a river 110 miles south of the Boyne, and then some of the squatters followed the river down to the sea, and found themselves a long way south of the Boyne, on a new river, which, in 1847, was called the Burnett from the surveyor who reported it and made the first survey, and who died and was buried at Brisbane on July 18, 1854, the year in which Sir Maurice, O'Connell was sent to found Gladstone, the year in which Strange, the naturalist and three other men were killed on the South Percy Island by the blacks.

THE STEUART BEOTHERS.

And all this period, from the unknown beginning to the discovery of the Burnett, Bundaberg is lying dormant in the womb of time, as it were, in the formless protoplasmic stage, until two Scots, named John and Gavin Stuart, came down to the present site of Bundaberg in 1866, looking for good timber to cut staves to make casks for the boiling down then at work on Baffle Creek. A biographic sketch of those grand old pioneers and some of their deeds and adventures would make an interesting story. They were last seen together by me on the Daintree River, where they had selected under the shadow of Mt Alexandra, and on my final visit to the Daintree, in 1895, there was only one of the brothers alive.

In April '69, they had a 320 acre selection on the north side of the Burnett approved, and this they named "Woondooma," and on it they erected a small sugar mill.

FINE OLD PIONEERS

The first pioneer selectors who paid rent on land taken up under the old Coffee and Sugar Regulations sold 100 acres to Mr S Johnston who erected the Waterview saw and sugar mills. This grand old fine specimen of a man and best type of the splendid old pioneers, is still alive and well in Bundaberg, where

he is held in profound respect by all classes. He has seen Bundaberg evolve out of the primeval wilderness of scrub and forest, into what it is today, one of the best laid out and cleanest and healthiest towns in Queensland, with its grandest main street, lighted by electricity, and with a full supply of excellent water.

SCRUB-COVERED LANDS.

We go back to a time when the dark green Woongarra scrub covered all the rich red basaltic soil which is spread over 20,000 acres, when the wonga pigeons called to each other in the branches, and the scrub turkey, "wahgoon," laboriously built her massive nest, on the spot where that romantic "Hummock," in some remote volcanic past, threw out its mounded seas of fire and lava upon the surrounding scene, and far into the astonished ocean, along whose margin today, from the river mouth, far southward, the beach is fronted by the great masses of black olivine basalt, where "the old Earthquake Demon nursed her young Ruin," and wrote her terrible name there in the molten lava! And where that fire and lava overflowed and grew cold, and made a beautiful home for the semi-tropical, gorgeous jungle and the wild birds and the wallabies, we see today one of the finest and most prolific cane growing areas in the State. It is an amazing and wonderful transformation scene!

The first residence was in North Bundaberg, where Thomas Watson erected a one-roomed humpy of waste staves roofed with tea-tree bark. In 1867 the first vessel to enter the river, the schooner Elizabeth, Captain Coode, owned by Thomas Miller, of Maryborough, came in for a load of red cedar.

ORIGIN OF THE NAME.

The site of Bundaberg was fixed by District Surveyor Davidson, afterwards Surveyor General, and the local surveyor, J. C. Thompspon, who took up a 1200 acre selection in his wife's name at Rubyanna. Among Thompson's survey party were two men named Edwards and Elwood.

The four class divisions among the Bundaberg blacks were Bunda, Barrang, Banjoor and Turroine. Edwards and an old blackfellow named "Bunda" because he belonged to that class, became chums, and exchanged names, Edwards becoming Bunda and Bunda calling himself "Mitha Edwad."

Edwards whom I knew so very well in after years in Cairns, was a somewhat eccentric man, with a fair education, and he suggested that the Saxon word berg, a town, should be attached to Bunda, so as to form the word Bundaberg, or "Bunda's town," but Edwards assured me that the old blackfellow was to have that honour, and not himself. In any case it was an ingenious suggestion, and gave the new town a fine sonorous, and strictly appropriate name. Edwards finally died at Cairns, where he had been engaged surveying for some time.

AN OLD VOLCANO.

The geological formation of the Hummock was shown by a deep well that was sunk on the Hummock Plantation. It passed through 10 feet of red soil, 24 feet of basalt boulders, 27 feet of solid lava, 20 feet of fragments of basaltic rock, then 15 feet of red sandy soil, overlying the sand and gravel at the original level of Hervey Bay; and there a good supply of excellent water was found. Tree roots were found down at a depth of 80 feet. Other wells, under the red soil, had masses of volcanic ash and cinders, but the water was always in the sand and gravel at the level of the Bay. That ancient volcano first appeared in history as the "Sloping Hummock," and "Double Hummock" of Cook's chart in 1770.

SOME PERSONAL NOTES

Running into the Burnett, between the town and the Woongarra Scrub, is Saltwater Creek, built by W. W. Lapham, and opened in March, 1878 by Governor Sir Arthur Kennedy. In 1882 the new court house was built, at a cost of 4000.

The first P.M. and Sub-collector of Customs in 1871 was Joseph Hughes, well known to me in 1881 as Collector of Customs at Townsville. Among the prominent men of the seventies was the Rev. Edward Tanner, who had been ordained by the Bishop of South Australia, came to Queensland, was incumbent for two and a half years at St Pauls in Maryborough, where he received a gift of 80 sovereigns on leaving for Bundaberg, where he selected 900 acres in the Woongarra Scrub, and started cane growing. At the general election in 1878 he stood for Bundaberg against Sir Thomas M'Ilwraith, the result being: M'Ilwraith 486, Tanner 260, and Skyring 16. Tanner died on New Years Day 1888.

When M'Ilwraith decided in 1883 to stand for another constituency, Bundaberg was contested by Adams and Walker, Adams winning by 541 to 435. W. B. O'Connell, in after years, Minister for Lands, was the first Polynesian Inspector, succeeded by Henry St. George Caulfield in March, 1887. At one time there were 3000 kanakas in the Bundaberg district.

Horace Burkitt followed Hughes as P.M. and Sub-collector of Customs. The Chamber of Commerce started in July 1882, and the first dredge, the Lytton, started work in October 1881. The first church was built by the Roman Catholics. The first medical man was Dr Sugden, in October 1877, but much valuable work had been done up to then by an able chemist named Coffey.

A great impetus was given to Bundaberg by the start of the construction of the line to Mount Perry, then an important copper field. Engineer Stanley's first estimate showed 8300 per mile for the first section, and 11000 per mile for the last 20 miles from Moonta. Surveyor Patterson started his surveys from the Bundaberg end and in August, 1881, the first section was opened to the Moolboolaman ("an old woman"), the final opening to Mount Perry in May, 1884.

When Manchester and Scott's sawmill was built in July, 1876, the brickwork was laid by Jack Aunear, afterwards member for Maryborough, and a well known and very popular politician, Samuel Johnston, of Waterview sawmills, had a twin screw steamer built by T. L. Hoar, her length being 81 feet, beam 16 feet, and draught, empty, only 4 feet. The machinery by Walker and Co. She was christened "The Burnett" by Miss Mary Johnston, the owner's daughter, whose father entertained a lot of enthusiastic guests in royal fashion.

In 1882 the Renfrewshire arrived with 305 immigrants, and then the Devonshire with about 60 Ceylonese coolies, but the working men "raised Cain," and the experiment was never repeated. It was an unpleasant row while it lasted.

On August 29, 1883, there was a very decided shock of earthquake over a wide area, and caused a considerable scare, but the most serious troubles of Bundaberg were the floods of 1870, 1875, and 1890. The river rose within two feet of the high bank at the Customs House. 32(1/2) feet above low water and 24.5 feet above high spring tides. Mabro, Woondooma, Waterview, and Fairymead were all submerged, and damage to the extent of 20,000 was done in Bundaberg. The Burnett drains a vast extent of country and has a large number of tributaries, including Baramba Creek. The flood of 1890 was two feet higher than any known previous flood.

EARLY SUGAR

That grand old firm of Gibson and Howes bought 2300 acres at Bingera, and started crushing in 1885, after an initial expenditure of 75000, the labour being represented by 98 Europeans, 8 Chinese, and 200 kanakas. In 1880 Young brothers bought 3200 acres at Fairymead, from A. and A. H. Brown, and started their now famous plantation, the original machinery of the mill, costing 40000. But the biggest lift that Bundaberg received was at the time when the Crans of Vengarie started the great Millaquin rennery, for which tenders were called for in January 1881, and the refining began in 1882. One man, a German, named Schliemann, had a contract for making 400,000 bricks, most of which were made in the 20 acre paddock in which the refinery stands. Robert Cran's brother, Peter Cran, married one of my father's sisters, and went to America. The Crans came from Donside, in Aberdeenshire, where they were known as "Crans of the Big Hands," being all tall, powerful men.

Bundaberg has always been a quiet and orderly town. On September 10, 1888, Captain Townley, the sheriff, presented Chief Justice Sir Charles Lilley with a pair of white gloves at the sitting of the Supreme Court. The first omnibus ran in January 1887.

<https://trove.nla.gov.au/newspaper/article/218207226>

LOSS OF BRIDGE MATERIAL

The Bundaberg Mail says it was a hard day for those who have to cross Saltwater Creek when the Loch Fergus foundered, as the loss of that vessel is likely to delay the construction of the new Kennedy bridge for some weeks beyond, the contract time. It appears that there were aboard certain lines of steel material necessary for the completion of the span, and although the contractors, Messrs. J. M'Cormack and Sons, immediately the news arrived, cabled home to have the gear repeated, and are in receipt of a reply that it was being shipped at once, there must necessarily be a loss of time, which just now is particularly valuable, ere the superstructure can be proceeded with.

This, with the sugar season coming on, is exceedingly unfortunate, as, without an expenditure the Woongarra Board cannot possibly afford, there will be no highway at the disposal of the public equal to taking any heavy loads over. It was currently reported about town that the contractors had applied on account of this accident, for an extension of time, and in all probability their application will, under the circumstances, be granted. Similar lines of material were aboard the Loch Fergus for the Burnett River traffic bridge, but it is not anticipated their loss will retard operations on that structure.

<https://trove.nla.gov.au/newspaper/article/182869789?searchTerm=Loch%20Fergus%20Kennedy%20Bridge>

Page 12, The Week (Brisbane), Fri 28 Apr 1899

TENDERS FOR KENNEDY BRIDGE.

M'CORMICK & SONS THE LOWEST.

BY TELEGRAPH

Brisbane. Sunday.

The Works Department have opened the following tenders for the construction of the new bridge over Saltwater Creek, Bundaberg: J. M'Cormick and Sons, £6,998; W; M. Thompson and Co., £8,197- the stipulated time is twelve months.

<https://trove.nla.gov.au/newspaper/article/215627337?searchTerm=Kennedy%20Bridge%20construction>

Page 2, The Bundaberg Mail and Burnett Advertiser, Mon 20 Jun 1898

ANNOUNCEMENT

The sub-contract for the concrete and pile-driving on the now Kennedy Bridge has been. let to Mr. T. Macleod.

<https://trove.nla.gov.au/newspaper/article/216904773?searchTerm=%22Kennedy%20Bridge%22>

Page 2, The Bundaberg Mail and Burnett Advertiser, Wed 7 Dec 1898

A QUESTION OF PATENT RIGHTS.

WALKERS LIMITED V. SARGEANT & CO.

In the Supreme Court, Brisbane, on Wednesday, before Mr. Justice Chubb, the following case of interest to Maryborough readers was commenced:

Mr. Feez, with him Mr. Stumm (instructed by Messrs. Chambers, Bruce, and M'Nab), for the plaintiffs; Mr. E. M. Litley (instructed by Messrs. Bouchard and Holland) for the defendants.

This was an action with regard to the patent rights of an invention for "improved appliances for moulding bridge cylinders and other cognate purposes, and applicable to all kinds of hollow castings, especially where the same have internal projections." The plaintiffs were Walkers Limited, of Maryborough, and the defendants A. Sargeant and Co., of Brisbane, both engineering firms. The invention, patented by Alfred Joseph Goldsmith, of Maryborough, engineer, on 31st March, 1891, was assigned to plaintiffs on 23rd October, 1891, it was alleged in the statement of claim that the defendants on numerous occasions had infringed their patent rights by using the invention in connection with bridge cylinders and other hollow castings constructed by means of a colourable imitation of the invention. The plaintiffs therefore claimed damages laid at £700, and an injunction restraining the defendants from any repetition or continuance of such infringements. The defendants, in their statement of defence, denied that Alfred J. Goldsmith was the true or first inventor of the invention; and alleged that the letters patent were not good or valid; and that the invention was not new or properly the subject of a patent. They further denied any infringement of the plaintiffs' rights, or any intention to continue the infringement of the same.

Alfred Joseph Goldsmith, supervising engineer on the Burnett River and Kennedy Bridges for the Queensland Government, said that he was formerly a member of the firm of John Walker and Co., now Walkers Limited. He was managing director of the latter, but at present he had no interest either in the company or in the patent. He then proceeded to describe the mode of casting bridge cylinders in vogue in 1889, and pointed out the difficulties and defects of the method. This mode was in vogue for twenty years before that in Queensland and elsewhere, and when witness was in England in 1882 he found it still in use there. He saw no method employed like the patent in question, or any method in which a collapsible core was employed in casting bridge cylinders. Some time before perfecting the patent himself, he had the idea of employing the collapsible principle in the casting of bridge cylinders, and he told one of the co-directors that, notwithstanding failure by other people, he was confident he could make a success of it. In that belief his firm tendered at a much lower price for certain bridge work, and were given the contract. At the end of 1890 he set to work to develop his idea. Attempts had been made previously by others to apply the principle, but without success, and they had practically given up the idea. After experiments, he perfected the invention now in question, and patented it. He subsequently transferred it to the company. He then described in what respect it differed from the common method, and from his description it appeared that one of the points of difference was the substitution of an adjustable iron core for the old-fashioned brick core. The invention, he said, provided a more accurate mould, was time-saving, and considerably less expensive than the old method.

At this stage the court adjourned until 10 o'clock on the following morning.

<https://trove.nla.gov.au/newspaper/article/148032162?searchTerm=%22Kennedy%20Bridge%22>

Page 4, Maryborough Chronicle, Wide Bay and Burnett Advertiser, Fri 16 Dec 1898

WANTED A FOOTBRIDGE.

The action of the Kennedy Bridge Board in their determination to make some provision for pedestrians over the creek during the erection of the new bridge by providing a temporary footbridge, is worthy of commendation, and we trust the component local authorities will not hesitate to second the efforts of the joint body by promptly agreeing to pay their share, viz., £31, towards the cost of same.

So far as the Council is concerned, the town will lose many times that amount if the bulk of the East Enders are compelled to stay at home through the lack of pedestrian conveniences, leaving only those having urgent business to come over. Ample provision has been made for vehicle by the metalling of the road via South Bundaberg, but wayfarers for instance at Monnt Misery could not possibly tramp, without great discomfort and in extreme instances, such a distance round during the summer months. Mr Fleming, who has to keep faith with gas consumers, has agreed to pay one-third the cost of this structure for his mains, and the balance is therefore reduced to a minimum for the two local bodies.

<https://trove.nla.gov.au/newspaper/article/216899663?searchTerm=%22Kennedy%20Bridge%22>

Page 2, The Bundaberg Mail and Burnett Advertiser, Mon 17 Oct 1898

ANNOUNCEMENT

TENDERS will be received by J. M'Cormick and Sons till 1st November, for the purchase and removal of the present Kennedy Bridge. Conditions to be seen at Burnett Bridge Works.

<https://trove.nla.gov.au/newspaper/article/216899645?searchTerm=%22Kennedy%20Bridge%22>

Page 3, The Bundaberg Mail and Burnett Advertiser, Mon 17 Oct 1898

KENNEDY BRIDGE BOARD.

NOTICE is hereby given that the Kennedy Bridge will be CLOSED to all traffic on and after the 1st DECEMBER, 1898. A temporary bridge for the convenience of foot passengers will be open-vehicular traffic will go via George and Prince Streets.

By Order of the President

J. TOPPING,

Clerk.

<https://trove.nla.gov.au/newspaper/article/216900268?searchTerm=%22Kennedy%20Bridge%22>

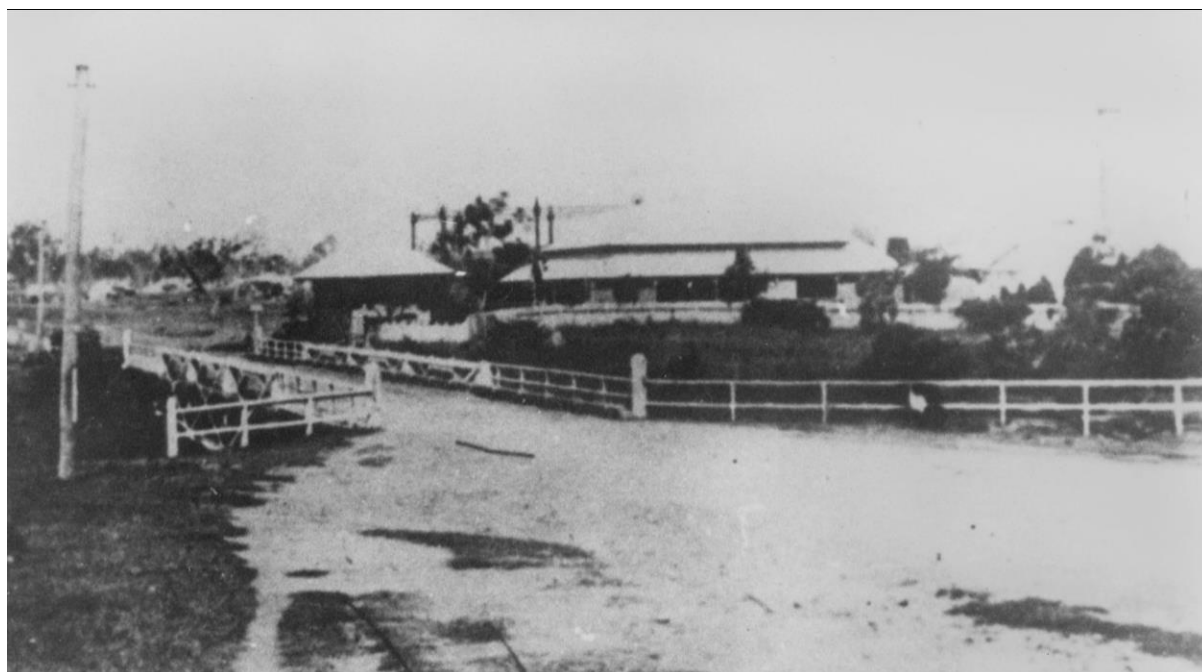
The Bundaberg Mail and Burnett Advertiser, Friday 25 Nov 1898

ANNOUNCEMENT

The Kennedy Bridge Board have taken ample precautions to let it be known throughout town and district that the bridge will be closed against traffic on 1st proximo, so that if any parties who " never read the Mail"— poor souls— are blocked after that date in attempting to cross, they will only have themselves to thank. Another notice of the closure appear in this issue.

<https://trove.nla.gov.au/newspaper/article/216900276?searchTerm=%22Kennedy%20Bridge%22>

The Bundaberg Mail and Burnett Advertiser, Friday 25 Nov 1898



ORIGINAL KENNEDY BRIDGE, BUNDABERG, 1878.

[Brisbane] : John Oxley Library, State Library of Queensland, 2009.

In 1872 the first bridge across Saltwater Creek was built of timber by a local property owner named Walter Adams. It was known as Adams Bridge. In 1878 it was replaced by another timber bridge called Kennedy Bridge. This bridge was replaced by a single span metal truss bridge designed by A.B. Brady, also called the Kennedy Bridge, which opened in December 1899. (Information taken from: CHIMS (Department of Environment and Resource Management), 2009, retrieved 16 March 2010, from <http://www.epa.qld.gov.au/chims/placeDetail.html?siteId=15142>>)

<https://trove.nla.gov.au/work/238937585?keyword=%22kennedy%20bridge%22%20bundaberg>

OPENING OF THE VICTORIA BRIDGE

DESCRIPTION OF THE BRIDGE.

The following is a description of the new structure. The bridge consists of six 170-foot spans, with three main longitudinal girders in each span, the whole carried upon five piers of three cylinders each. The girders are of the hog-backed lattice type, 22 feet deepest at the centre and 10 foot at the ends and constructed of steel. The cylinders of the piers are of cast iron, and the abutments of masonry backed with concrete. For about half the length of each span the girders are overhead—to resist wind pressure, with light lattice girders and diagonal bars. One end of each main girder is fixed on cast steel rocker bearings, but the opposite end rests on expansion rollers of cast steel, of an improved interlocking pattern.

The bearings of the main girders on the abutments rest on massive granite bed-blocks. The length of the bridge over all is 1,040 feet 8 inches, the clear length between the faces of the abutments being 1,011 feet 8 inches, while the width between the parapets of the footways is 73 feet. The height of the roadways above highwater mark is 36½ feet at the north end and 25 feet at the south end of the structure, the gradient on the roadway being at the rate of 1 in 100. The bridge affords a clear headroom of 3 feet more than existed under the superstructure of the old iron bridge.

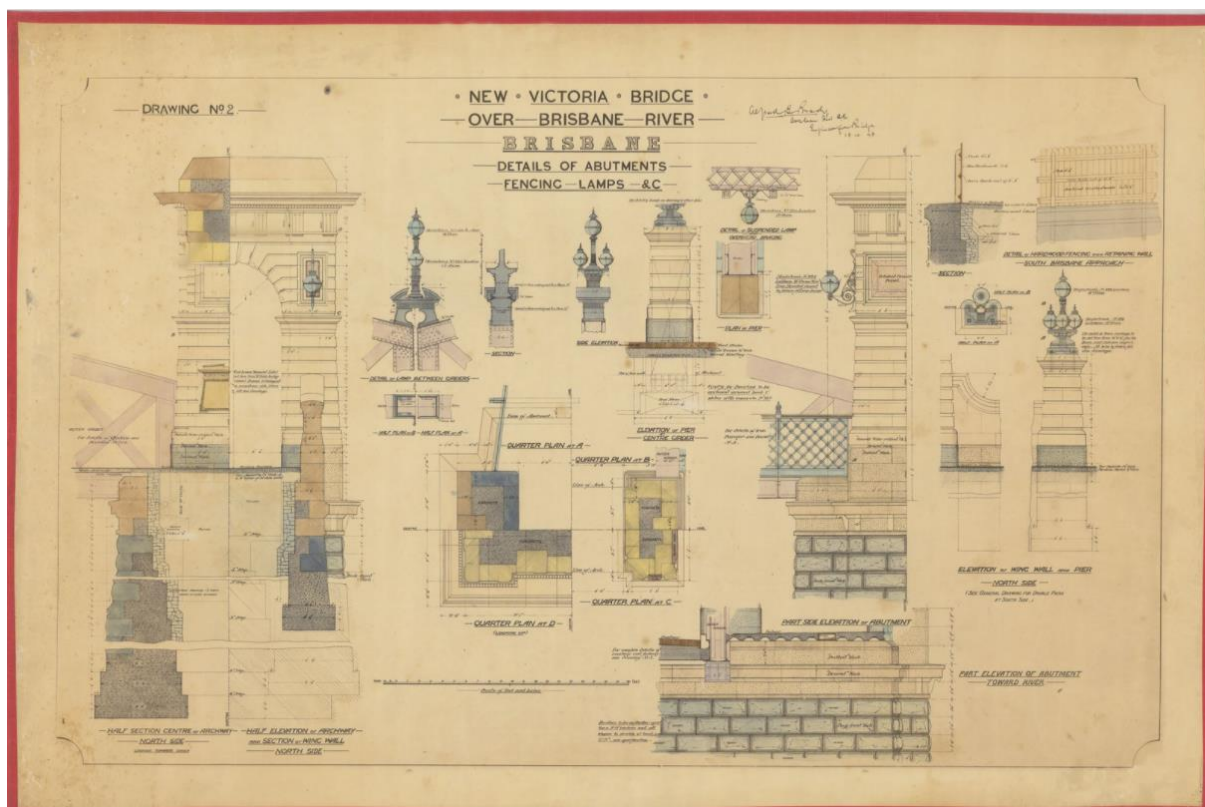
The total weight of ironwork and steelwork in the bridge, including superstructure and piers, amounts to 3,315 tons, the whole of which was manufactured in the colony. Every cylinder, three of which form a pier, has been sunk to a hard rock foundation, each pier in the direction of the stream having; a width or base of 63 feet. The maximum depth sunk is 06 .foot. 0 inches, below high-water level. The diameter of the cylinders from the foundation level to the river bed is 10 feet, at that level the diameter reduced by tapering, cylinder to 8 foot, and again at high water mark by, a strong moulded base casting on the cylinder the diameter is reduced to 6 feet. The whole of the cylinders are completely filled with Portland cement concrete, and are finished with ornamental cast iron caps, cornices, and bases, in keeping with the architectural treatment of the stone abutments and arches to same. "Wrought iron riveted bracing, of great strength connects the cylinders, each pier having four elliptical panels and girder ties above high water mark. The cylinders are further braced with heavy cast iron spandrels, firmly bolted to them below high water level. It is considered that the bridge gains considerably in beauty and finish by having massive and architecturally treated masonry abutments and arches over the footways at each end. The abutments are faced with O'Connelltown (near Brisbane) purple hardstone, rock faced, and surmounted by heavy moulded and bracketted cornices of brown freestone. The lamp pillars and piers to archways are of Helidon freestone in alternating courses of brown and white. Surmounting each arch, is an entablature treated in the Doric style. There are two road or carriage ways, and two footways. The centre girder divides the roadways, which are each of a clear width of 24 feet. Cantilevers springing from the outer- girders carry the footways, each 9 feet wide in the clear. The decking of the bridge is constructed of steely trough plates, laid transversely from girder to girder. This decking has been covered with cement concrete, upon which a pavement of

hardwood blocks has been laid on the latest and most approved system, forming the carriage ways. It is intended that the down-stream roadway shall be used by vehicles travelling from north to south, mid the up-stream roadway for traffic from South Brisbane to the city. The flooring of the footways consists of corrugated steel plates laid longitudinally, riveted to the cantilevers, covered with concrete and finished on the surface with

limmer-rock asphalt one inch thick. The parapets of the footways are of wrought iron lattice work with a moulded hardwood handrail, and ornamented wrought iron brackets on the ends of the cantilevers. The approach to the bridge on the south side line been increased in width from 66 feet to 133 feet, and the levels on both north and south sides have been raised to accord with the level of the roadways on the now structure. Provision has been made to carry water over the bridge by means of two riveted steel 12-inch pipes, suspended close to the underside of the decking, on each side of the centre girder. The tramways have been laid in each roadway alongside the centre girder. The telegraph and telephone cables are carried

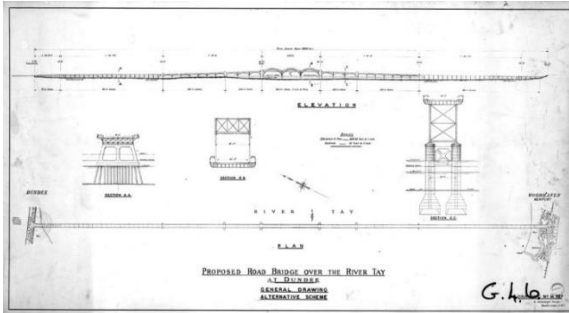
over through a number of 24-inch iron tubes laid beneath the asphalt of the footways, inspection boxes, with- covers flush with. The surface of the footways, being provided at suitable intervals. The unsightly overhead system of telegraph wires 1ms thus been done away with. The bridge and its approaches are lighted by gas, - supplied to the lamps by service pipes from the companies' mains, half the supply, being drawn from the city side, and half from the south side of the river. The lamps are carried on ornamental cast-iron standards on the stone lamp pillars, and at the intersections of the outer girders and on each side of the archways on ornamental wrought-iron brackets. There are 82 lanterns in ail, 60 of the number being fitted with Welsbach incandescent burners, and the remaining 32 over head lanterns on the bridge have ordinary burners with patent spreaders attached. The presence of the old bridge on the site, and the necessity for maintaining the traffic uninterruptedly during the construction of the new bridge, influenced the engineer in the design of the structure, who decided upon having two roadways. The bridge - has, therefore, been built in "two sections Two of the three cylinders required for each pier were sunk on the cast or downstream side of the old bridge, and carries half of the now structure) by fixing two of the girders of ouch span in position and laying down the flooring. Ono roadway and the downstream footway. wore made ready for traffic. The first section or downstream half of the bridge was completed and thrown open for traffic without ceremony on October 1 last year, on which date the old bridge was closed and its demolition commenced. The erection of the second, section or upstream half of the now bridge was thou proceeded with, and was completed for the formal opening by his Excellency the Governor yesterday.

Opening Victoria Bridge, Page 6, The Telegraph (Brisbane), Wednesday 23 June 1897, accessible at: <https://trove.nla.gov.au/newspaper/article/172404048/19956037>



HOGBACK LATTICE BRIDGES INTERNATIONALLY:

- Barmouth Bridge 1864-1867 (Benjamin Piercy and Henry Conybeare)
- Tay Viaduct 1887 (Sir James Brunlees., William Henry Barlow, Messrs William Arrol & Co of Glasgow)



- Victoria Bridge 1896-1897



- Kennedy Bridge 1899
- Burnett River Bridge 1900



- McIntyre Bridge (Goondiwindi Border Bridge) 1914-1915
- Caboolture Bridge 1919